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ment. All present agreed that the disease is the most serious one known to the rubber industry, that treatment alone was too expensive, and that methods of prevention should be discovered if possible.

Later at a special meeting an experiment was planned by Messrs. Rands, Maas, Keuchenius and La Rue to test more fully whether or not the disease may have a physiological cause. After visiting a number of rubber estates on the east coast of Sumatra and in Atjeh, Drs. van Hall and Rands returned to Java.

The first technical meeting of the personnel of the experiment stations for the rubber culture was held in Buitenzorg, Java, on November 1, 1919. Representatives of the Central Rubber Proefstation, the West-Java Proefstation, the Malang Proefstation, the Besoekei Proefstation, the Laboratorium voor Plantenziekten, and the research department of the Holland Plantations Company.

Among the subjects discussed were brown bast disease, mildew-diseases of leaves, borers, thinning out of trees on estates, and selection. The last topic is only now beginning to be a matter of concern to rubber planters, although experiment station workers have been interested in it for several years.

EXPERIMENT STATIONS OF THE BUREAU OF MINES

IN connection with the work of the Bureau of Mines, Department of the Interior, the bureau is now conducting eleven mining experiment stations, located in the various mining centers of the country, and bending their energies toward the special mining problems that are local to their part of the country. So great has been the demand for knowledge concerning the character of the work undertaken at these various mining stations and its general relation to the mining industry, the bureau has issued a bulletin describing the work of the stations. Dr. Van H. Manning, director of the bureau, sketches the work of the different stations as follows:

The station at Columbus, Ohio, situated at a clay-working center is employed mostly on ceramic problems. In this country there are about 4,000 firms manufacturing clay products, including brick, tile, sewer pipe, conduits, hollow blocks, architectural terra cotta, porcelain, earthenware, china and art pottery. The amount invested in these industries is approximately \$375,000,000 and the value of the products exceeds \$208,000,000 annually.

The station at Bartlesville, Okla., is investigating problems that arise in the proper utilization of oil and gas resources, such as elimination of waste of oil and natural gas, improvements in drilling and casing wells, prevention of water troubles at wells, and of waste in storing and refining petroleum, and the recovery of gasoline from natural gas.

What the Bureau of Mines has done for the great coal-mining industry, chiefly through investigations at the experiment station at Pittsburgh, Pa., has been published in numerous reports issued by the bureau. Some of the more important accomplishments have been the development and introduction of permissible explosives for use in gaseous mines, the training of thousands of coal miners in mine-rescue and first-aid work, and the conducting of combustion investigations, aimed at increased efficiency in the burning of coal and the effective utilization of our vast deposits of lignite and low-grade coal.

The Salt Lake City station has devised novel methods of treating certain low-grade and complex ores of lead and zinc. These methods show a large saving of metal over methods hitherto employed, and have made available ores that other methods could not treat profitably.

The Seattle station is busy with the beneficiation of the low-grade ores of the Northwest, and the mining and utilization of the coals of the Pacific states; the Tucson station is working on the beneficiation of low-grade copper ores; and the Berkeley station has shown how losses may be reduced at quicksilver plants and how methods at those plants can be improved.

In the conduct of these investigations the bureau seeks and is obtaining the cooperation of the mine operators. At more than a dozen mills in the west engineers from the stations are working directly with the mill men on various problems, and the results they already have obtained more than warrant the existence of the stations. Success in solving one problem may easily be worth millions to the country. Mining men are using these stations more and more freely as they realize that the government maintains these stations to help them, and that the difficulties of the operators, both large and small, will receive sympathetic consideration and such aid as the stations can give.

GRANTS FOR RESEARCH OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

At the St. Louis meeting of the association, the council assigned the sum of \$4,500 to be expended by the Committee on Grants for

Research during the year 1920. The members of the committee for the current year are: Henry Crew, chairman; W. B. Cannon, R. T. Chamberlin, G. N. Lewis, George T. Moore, G. H. Parker, Robert M. Yerkes, and Joel Stebbins, secretary.

The committee will hold a meeting in Washington in the month of April, when the distribution of the grants will be made. Applications for grants may be made under the general rules given below, which were adopted in 1917; but the committee especially invites suggestions from scientific men who may happen to know of cases where young or poorly supported investigators would be greatly helped by small grants.

1. Applications for grants may be made to the member of the committee representing the science in which the work falls or to the chairman or secretary of the committee. The committee will not depend upon applications, but will make inquiry as to the way in which research funds can be best expended to promote the advancement of science. In such inquiry the committee hopes to have the cooperation of scientific men and especially of the sectional committees of the association.

2. The committee will meet at the time of the annual meeting of the association or on the call of the chairman. Business may be transacted and grants may be made by correspondence. In such cases the rules of procedure formulated by the late Professor Pickering and printed in the issue of *SCIENCE* for May 23, 1913, will be followed.

3. Grants may be made to residents of any country, but preference will be given to residents of America.

4. Grants of sums of \$500 or less are favored, but larger appropriations may be made. In some cases appropriations may be guaranteed for several years in advance.

5. Grants, as a rule, will be made for work which could not be done or would be very difficult to do without the grant. A grant will not ordinarily be made to defray living expenses.

6. The committee will not undertake to supervise in any way the work done by those who receive the grants. Unless otherwise provided, any apparatus or materials purchased will be the property of the individual receiving the grant.

7. No restriction is made as to publication, but the recipient of the grant should in the publica-

tion of his work acknowledge the aid given by the fund.

8. The recipient of the grant is expected to make to the secretary of the committee a report in December of each year while the work is in progress and a final report when the work is accomplished. Each report should be accompanied by a financial statement of expenditures, with vouchers for the larger items when these can be supplied without difficulty.

9. The purposes for which grants are made and the grounds for making them will be published.

JOEL STEBBINS,
Secretary

SCIENTIFIC NOTES AND NEWS

RICHARD C. MACLAURIN, president of the Massachusetts Institute of Technology since 1909, died from pneumonia in Boston on January 15. Dr. MacLaurin was born in Scotland in 1870. He was educated at the Universities of New Zealand and Cambridge, and was appointed professor of mathematics in the University of New Zealand in 1898. In 1907 he was appointed professor in mathematics and physics in Columbia University.

DR. JACQUES LOEB, of the Rockefeller Institute for Medical Research, was elected president of the American Society of Naturalists at the recent meeting held in Princeton.

PROFESSOR F. B. LOOMIS, of Amherst College, has been elected president of the Paleontological Society.

DR. PHOEBUS A. T. LEVENE, of the Rockefeller Institute for Medical Research, in New York, was elected associate member of the Société Royale des Sciences Médicales et Naturelles of Brussels, on December 1, 1919.

MR. J. H. JEANS, of Cambridge, formerly professor of mathematics in Princeton University, has been nominated as secretary of the Royal Society.

DR. PAUL SABATIER (Toulouse), and Dr. Pierre Paul Emile Roux (Paris), have been elected honorary members of the British Royal Institution.

THE Swedish Medical Association has awarded its jubilee prize this year to Dr.